



What Drives Academic Engagement in Digital Higher Education? The Roles of Digital Competence, Academic Self-Efficacy, and Emotional Intelligence

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Abstract

This study investigates the relationships between digital competence, academic self-efficacy, emotional intelligence, and academic engagement among undergraduate students in Jakarta. The study hypothesizes that digital competence, academic self-efficacy, and emotional intelligence are positively associated with academic engagement simultaneously. A quantitative non-experimental design was employed using a non-probability convenience sampling technique, and data were collected through questionnaires administered to 211 participants. The data were analyzed using Partial Least Squares Structural Equation Modeling (PLS-SEM). The findings support the proposed hypotheses. Digital competence demonstrated the strongest positive effect on academic engagement ($\beta = 0.459$), followed by academic self-efficacy ($\beta = 0.406$) and emotional intelligence ($\beta = 0.367$). Collectively, these variables explained 71.8% of the variance in academic engagement ($R^2 = 0.718$). These findings suggest that developing students' personal capacities is essential for sustaining academic persistence within increasingly digitalized higher education environments.

Keywords: academic engagement, academic self-efficacy, digital competence, emotional intelligence, higher education

Abstrak

Penelitian ini bertujuan untuk menganalisis hubungan kompetensi digital, efikasi diri akademik, dan kecerdasan emosional dengan keterlibatan akademik mahasiswa S1 di Jakarta. Penelitian ini menggunakan pendekatan kuantitatif, non-eksperimental dengan teknik non-probability convenience sampling dan data dikumpulkan melalui kuesioner dari 211 partisipan. Hipotesis yang diuji adalah kompetensi digital, efikasi diri akademik, dan kecerdasan emosional secara simultan berhubungan positif dengan keterlibatan akademik mahasiswa. Analisis penelitian ini menggunakan Partial Least Square Structural Equation Modeling (PLS-SEM). Hasil penelitian ini menunjukkan bahwa hipotesis didukung secara signifikan. Kompetensi digital menunjukkan hubungan positif dengan keterlibatan akademik mahasiswa dengan koefisien jalur $\beta = 0,459$, diikuti oleh efikasi diri akademik dengan $\beta = 0,406$, dan kecerdasan emosional dengan $\beta = 0,367$. Secara simultan, model ini memiliki nilai R^2 sebesar 0,718. Oleh karena itu, bagi mahasiswa pengembangan kapasitas personal menjadi kunci untuk mempertahankan diri di bidang akademik di tengah pendidikan tinggi yang semakin terdigitalisasi.

Kata kunci: Efikasi diri akademik, kecerdasan emosional, keterlibatan akademik, kompetensi digital, mahasiswa

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1. Introduction

Higher education is currently undergoing a transformation toward a digital ecosystem that fundamentally changes the learning process. This condition requires higher education institutions to adapt in various aspects, ranging from learning processes and institutional strategies to the provision of educational services (Benavides et al., 2020). Learning is no longer confined to physical classrooms but has expanded through Learning Management Systems (LMS), hybrid learning, and blended online and on-site classes. The World Economic Forum (2023) states that Education 4.0 emphasizes more personalized and self-directed learning, in which the learning process is adjusted to the needs and pace of

everyone. In addition, this approach highlights the importance of digital skills, creativity, critical thinking, and problem-solving abilities as essential competencies for the future.

Traditional learning models have begun to face various limitations, such as limited accessibility, low time flexibility, less effective methods, and continuously increasing costs. In this context, digital learning has emerged as an alternative by expanding access, providing flexibility, supporting more personalized learning, and creating opportunities for more affordable education (Makda, 2025). However, in practice, a complex phenomenon has emerged in which academic engagement in the learning process declines due to digitalization, resulting in learning



loss, reduced focus and digital distractions, decreased learning motivation, limited face-to-face interaction, digital and accessibility gaps, as well as mental health issues (Wulansari et al., 2025; Hakim & Yulia, 2024; Cerelia et al., 2021; Fitri, 2017).

Student academic engagement remains an important issue in higher education research, particularly amid changes in the digital learning era that require students to become more active, independent, and capable of managing their own learning. A study conducted by Jamaluddin et al. (2022) among university students found that 73% had moderate engagement, 15% low engagement, and only 12% high engagement. This indicates that most students have not yet achieved an optimal level of engagement. In digital learning environments, this condition becomes increasingly relevant because the rapid flow of information requires students to use technology wisely while simultaneously engaging more actively in the learning process. This finding is consistent with Reyes-de-Cózar et al. (2023), who explained that low levels of active participation, motivation, and students' emotional connection to learning may lead to decreased academic performance and academic engagement.

Astin (1999) emphasized that student academic engagement refers to the amount of physical and psychological energy devoted to the academic experience. Academic engagement may also be understood as a multidimensional construct encompassing behavioral, emotional, and cognitive engagement in the learning process (Fredricks et al., 2004). Furthermore, within the Utrecht Work Engagement Scale-Student approach, academic engagement is defined as a positive psychological state related to study activities, characterized by vigor, dedication, and absorption, namely learning energy, strong involvement in academic activities, and deep concentration in learning tasks (Schaufeli et al., 2002; Carmona-Halty et al., 2019). Therefore, academic engagement is not merely reflected in attendance or task completion but also in students' active participation, persistence, interest, focus, and effort to understand course materials.

In today's increasingly digital era, students' learning processes are supported by technology, requiring them to use it effectively to enhance academic performance and to use various digital platforms more wisely. Vuorikari et al. (2022) explained that digital competence refers to the ability

to use digital technology confidently, critically, and responsibly to support learning, work, and participation in society. He et al. (2018) further emphasized that digital competence is associated with students' perceptions and actual abilities in using technology to achieve learning goals, thereby providing them with greater control over the learning process. Thus, students with strong digital competence are not only capable of operating technology but also of accessing information, evaluating digital sources, communicating, collaborating, and managing their learning activities more effectively and purposefully.

Heidari et al. (2021) found that digital competence influences academic engagement both directly and indirectly, with digital informal learning serving as a mediator. Similar findings were reported by Zhao et al. (2022), who explained that students' ability to adapt to technology is associated with academic engagement in technology-based learning environments. In addition, He et al. (2018) demonstrated that digital competence can strengthen students' perceptions of control over technology use, thereby encouraging them to engage more actively in utilizing technology throughout the learning process. Therefore, digital competence functions not only as a technical skill, but also as a factor that supports participation, learning control, and students' engagement in digital learning environments.

In addition, academic self-efficacy contributes to students' academic engagement. Academic self-efficacy refers to students' beliefs in their ability to complete academic tasks at the expected level, such as understanding course materials, completing assignments, managing study time, preparing academic papers, and taking examinations (Schunk, 1991). Jaya and Nurqamarani (2023) described academic self-efficacy as students' confidence in their ability to accomplish specific academic tasks and overcome learning challenges in higher education.

Lizarte et al. (2024) revealed that self-efficacy is not only positively associated with academic engagement but also moderates the relationship between anxiety and academic engagement. In the context of hybrid learning, Jaya and Nurqamarani (2023) found that academic self-efficacy plays an important role in fostering active participation, motivation, and persistence in learning. Research conducted by Yudhistira et al. (2023) among medical students also demonstrated that academic

self-efficacy significantly influences academic engagement, with the effect mediated by academic burnout. These findings indicate that academic self-efficacy can help students maintain learning engagement, particularly under pressure and at risk of academic exhaustion.

In addition to digital competence and academic self-efficacy, the digitalization that demands greater academic engagement from students is inevitably associated with other challenges, particularly emotional and psychological exhaustion. This condition arises from increasing pressures and the rapid development of digital technology, which requires students to continuously adapt to ongoing changes. According to a report published on potretonline.com, many students experience declines in emotional well-being and mental health due to exhaustion (Nabilah, 2026). Under such conditions, students are likely to demonstrate decreased academic engagement sooner or later.

Emotional intelligence is therefore needed to help students manage various academic demands while maintaining academic engagement, sustaining focus, and building productive social interactions throughout the learning process. Mayer et al. (2004) viewed emotional intelligence as an individual's ability to reason with emotions and utilize emotional information to support thinking processes. Bar-On (as cited in Bru-Luna et al., 2021) conceptualized emotional intelligence as a set of non-cognitive abilities and competencies that influence individuals' success in coping with environmental demands and pressures, including intrapersonal skills, interpersonal skills, adaptability, stress management, and general mood. Emotional intelligence encompasses self-awareness, self-regulation, social awareness, and relationship management, which are regarded as core competencies for personal and social effectiveness (Bereded et al., 2025).

Previous findings have emphasized that emotional intelligence plays an important role in maintaining students' psychological well-being, as the ability to manage emotions helps students respond more adaptively to academic pressure, maintain emotional balance, and sustain motivation to learn (Julika & Setiyawati, 2019). Furthermore, Bereded et al. (2025) explained that emotional intelligence directly influences academic achievement and engagement. This is because students with higher emotional intelligence tend to be better able to

manage academic stress and maintain persistence in learning, which ultimately affects their performance and the quality of their engagement in higher education environments.

The interrelationship among the three variables in this study can be explained through Social Cognitive Theory. Bandura (2001) explained that individuals are not merely influenced by their environment but also act as active agents who regulate their thoughts, emotions, motivations, and behaviors. Social Cognitive Theory views individual behavior as the result of reciprocal interactions among personal factors, behavior, and the environment, referred to as triadic reciprocal causation (Bandura, 2001; Myers & Twenge, 2022). In this study, digital competence, academic self-efficacy, and emotional intelligence are conceptualized as individual resources associated with students' use of technology for academic purposes, including searching for information, completing assignments, communicating, and participating in academic activities. Academic self-efficacy reflects students' beliefs in their ability to meet academic demands, whereas emotional intelligence relates to the ability to manage emotions throughout the learning process. Therefore, these three resources help explain how students regulate their abilities, self-beliefs, and emotions in response to the demands of increasingly digitalized higher education environments.

The three variables examined in this study are understood as complementary personal resources in explaining students' academic engagement. The research model positions academic engagement as a construct associated with students' ability to use technology, confidence in their own capabilities, and capacity to manage emotions when dealing with the demands of digital learning. Accordingly, this study aims to examine the relationships between digital competence, academic self-efficacy, emotional intelligence, and academic engagement among undergraduate students in Jakarta. Theoretically, this study is expected to enrich the field of educational psychology through an integrative model that positions these three variables as predictors of academic engagement. In practice, the findings are expected to provide a basis for higher education institutions to design more contextual learning strategies and interventions to improve the quality of students' learning experiences in the digital era. Therefore, the hypothesis of this study is that digital

competence, academic self-efficacy, and emotional intelligence are simultaneously and positively associated with students' academic engagement.

2. Method

This study employed a quantitative, non-experimental cross-sectional survey design to examine the relationships among digital competence, academic self-efficacy, emotional intelligence, and students' academic engagement. The population of this study consisted of undergraduate (S1) students who were actively enrolled in various higher education institutions in Jakarta. However, because this study used a convenience sampling technique, the participants were students accessible to the researcher from several universities in Jakarta, with the inclusion criterion being active undergraduate students residing in Jakarta at the time of data collection. A total sample of 211 respondents was considered adequate for PLS-SEM analysis because it exceeded the ten-times rule, namely, a minimum of 10 times the largest number of structural paths directed toward an endogenous construct (Hair et al., 2011; Hair et al., 2019; Hair & Alamer, 2022).

Table 1. Respondent Characteristics

| Category | n | % |
|---------------------|-----|------|
| Gender | | |
| Male | 93 | 44.1 |
| Female | 118 | 55.9 |
| Age | | |
| 18 years old | 15 | 7.1 |
| 19 years old | 47 | 22.3 |
| 20 years old | 57 | 27.0 |
| 21 years old | 63 | 29.9 |
| 22 years old | 25 | 11.8 |
| 23 years old | 0 | 0.0 |
| 24 years old | 3 | 1.4 |
| 25 years old | 1 | 0.5 |
| Semester | | |
| Semester 1 | 34 | 16.1 |
| Semester 2 | 0 | 0.0 |
| Semester 3 | 73 | 34.6 |
| Semester 4 | 1 | 0.5 |
| Semester 5 | 74 | 35.1 |
| Semester 6 | 0 | 0.0 |
| Semester 7 | 26 | 12.3 |
| Semester 8 or above | 3 | 1.4 |

Based on respondent characteristics, the research participants were predominantly female,

totaling 118 (55.9%), while male participants numbered 93 (44.1%). Based on age, most respondents were 21 years old, totaling 63 individuals (29.9%). Meanwhile, based on semester level, most respondents were in Semester 5, totaling 74 individuals (35.1%), followed closely by Semester 3 with 73 individuals (34.6%).

Data were collected online via Google Forms, beginning with an informed consent form that outlined the research objectives, procedures, confidentiality, and participants' right to withdraw at any time (Gregory, 2015). Respondents who indicated their agreement were considered to have provided informed consent. The questionnaire link was distributed through universities, lecturer-student networks, and social media platforms.

All instruments used in this study employed a 5-point Likert scale, with response options ranging from "strongly disagree" to "strongly agree." The research instruments were developed by the researcher based on theoretical reviews and relevant previous studies. In the initial stage, the instrument comprised 57 items. The results of the measurement model evaluation showed that 40 items met the validity and reliability criteria for further analysis. Specifically, the initial instrument consisted of 15 academic engagement items, 15 digital competence items, 15 academic self-efficacy items, and 12 emotional intelligence items.

Instrument validity and reliability were assessed by evaluating the measurement (outer) model in PLS-SEM. Convergent validity was evaluated using factor loadings and Average Variance Extracted (AVE), with criteria of factor loadings > 0.70 and AVE > 0.50. Discriminant validity was examined through cross-loading values and comparisons between the square root of AVE and inter-construct correlations. Indicators were considered to demonstrate discriminant validity when the cross-loading values were higher for their respective constructs than for other constructs, and when the square root of AVE exceeded the correlations between constructs. Instrument reliability was assessed using Cronbach's Alpha and Composite Reliability, with values > 0.70 indicating good reliability (Ghozali & Latan, 2021).

Inferential analysis was conducted using Partial Least Squares Structural Equation Modeling (PLS-SEM) in SmartPLS to examine predictive relationships among latent constructs. In this study, the PLS-SEM analysis evaluated both the

measurement (outer) and structural (inner) models. The outer model was used to assess the validity and reliability of indicators in representing latent constructs, whereas the inner model was used to examine relationships among latent variables, determine the extent to which the variance of endogenous constructs could be explained by the model, and test the hypotheses through the bootstrapping procedure (Ghozali & Latan, 2021).

3. Results

The outer model evaluation was conducted to ensure that each indicator accurately represented the construct being measured through validity and reliability testing (Ghozali & Latan, 2021). Several stages were involved in the outer model evaluation, including the assessment of loading factor values, Average Variance Extracted (AVE), Cronbach's Alpha, Composite Reliability, and AVE².

Table 2. Results of reliability and convergent validity testing

| Variables | Loading Factor | Cronbach's Alpha | Composite Reliability | AVE | Description |
|------------------------|----------------|------------------|-----------------------|-------|--------------------|
| Academic Self-Efficacy | 0.764–0.859 | 0.951 | 0.958 | 0.630 | Reliable and valid |
| Emotional Intelligence | 0.801–0.890 | 0.938 | 0.948 | 0.645 | Reliable and valid |
| Academic Engagement | 0.732–0.836 | 0.941 | 0.949 | 0.673 | Reliable and valid |
| Digital Competence | 0.765–0.827 | 0.939 | 0.948 | 0.696 | Reliable and valid |

The results of the convergent validity test indicated that all indicators for each variable had loading factor values above 0.70. For the academic engagement variable, the loading factor values ranged from 0.732 to 0.836. For the digital competence variable, the loading factor values ranged from 0.765 to 0.827. For the academic self-efficacy variable, the loading factor values ranged from 0.764 to 0.859. Meanwhile, for the emotional intelligence variable, the loading factor values ranged from 0.801 to 0.890. Therefore, all indicators used in the final model met the criteria for convergent validity, with indicators considered valid when values ≥ 0.70 .

The next stage involved examining the values of Cronbach's Alpha, Composite Reliability, and AVE. The acceptable criteria for Cronbach's Alpha and

Composite Reliability are values above 0.70, while AVE values should exceed 0.50 to be considered satisfactory.

Based on the reliability test results, the final model in this study was considered reliable and demonstrated satisfactory results. The next stage of testing involved examining the cross-loading values and comparing the square root of AVE with the correlations among constructs. Based on the results, the cross-loading values for all indicators were higher with their respective constructs than with other constructs. In addition, comparisons between the square root of AVE values and the correlation coefficients indicated that the criteria for discriminant validity were fulfilled. The results are presented in the following table.

Table 3. Comparison of the Square Root of AVE and Inter-Construct Correlation Coefficients

| Variable | Square Root of AVE | Maximum Correlation Coefficient with Other Constructs | Description |
|------------------------|--------------------|---|-------------|
| Academic Self-Efficacy | 0.794 | 0.821 | Fulfilled |
| Emotional Intelligence | 0.803 | 0.834 | Fulfilled |
| Academic Engagement | 0.821 | 0.794 | Fulfilled |
| Digital Competence | 0.834 | 0.803 | Fulfilled |

Therefore, the outer model evaluation criteria were met, allowing the analysis to proceed to the next stage: the inner model evaluation.

Structural Model Evaluation (Inner Model)

This evaluation was conducted by examining the values of the Variance Inflation Factor (VIF), f-square,

R-square, and path coefficients for hypothesis testing. The significance values were obtained by analyzing the bootstrapping output in SmartPLS. Path coefficients with t-statistic values greater than or equal to 1.96 or p-values less than or equal to 0.05 were considered statistically significant (Ghozali & Latan, 2021).

Table 4. Results of the Multicollinearity Test

| Variable | VIF for Academic Engagement | Criteria | Description |
|------------------------|-----------------------------|----------|-------------|
| Academic Self-Efficacy | 1.048 | < 5.000 | Valid |
| Emotional Intelligence | 1.116 | < 5.000 | Valid |
| Digital Competence | 1.098 | < 5.000 | Valid |

Based on the VIF values, each variable met the established multicollinearity testing standards. This indicates that each exogenous variable contributed uniquely to the model, allowing the model to be interpreted appropriately without multicollinearity issues.

The R-square value was 0.718, indicating that 71.8% of the variance in academic engagement was explained by digital competence, academic self-efficacy, and emotional intelligence, thereby supporting H4. Meanwhile, the remaining 28.2% was explained by other variables outside the model.

Table 5. Results of Hypothesis Testing

| Hypothesized Relationship | β | f^2 | T-value | SE | P-value | Description |
|---|---------|-------|---------|-------|---------|-------------|
| Academic Self-Efficacy (ASE) - > Academic Engagement (AE) | 0.406 | 0.558 | 12.172 | 0.032 | 0.000 | Significant |
| Emotional Intelligence (EI) - > Academic Engagement (AE) | 0.367 | 0.426 | 10.492 | 0.033 | 0.000 | Significant |
| Digital Competence (DC) - > Academic Engagement (AE) | 0.459 | 0.680 | 14.425 | 0.035 | 0.000 | Significant |

Based on the hypothesis testing results, all relationships among the variables were positive and statistically significant, with p-values of 0.000. Digital competence showed a positive relationship with academic engagement, with a path coefficient value of $\beta = 0.459$. Academic self-efficacy was also positively related to academic engagement, with a path coefficient (β) of 0.406. In addition, emotional intelligence was positively associated with academic engagement, with a path coefficient (β) of 0.367. Therefore, these findings indicate that digital competence, academic self-efficacy, and emotional intelligence are simultaneously and positively associated with students' academic engagement.

4. Discussion

This study demonstrated that digital competence is positively and significantly associated with students' academic engagement, supporting H1. These findings suggest that students who are more proficient in using digital technology to search for information, manage learning materials, and complete platform-based assignments tend to be more engaged in the learning process. Digital competence helps students reduce technical barriers in digital learning, such as difficulties accessing Learning Management Systems (LMS), finding academic resources, processing information, or completing technology-based assignments. When

these barriers are minimized, students gain greater control over their learning processes, making it easier for them to participate actively, maintain focus, and sustain effort in academic activities. Within the framework of Social Cognitive Theory, digital competence may be understood as an individual resource that helps students respond more actively and adaptively to the demands of digital learning. These findings are consistent with previous studies reporting that digital competence is significantly associated with academic engagement, both directly and indirectly through digital informal learning (Heidari et al., 2021). Students with stronger digital skills also tend to utilize various online platforms and learning resources more actively (Zhao et al., 2022; Heidari et al., 2021).

Academic self-efficacy was also positively and significantly related to students' academic engagement, supporting H2. In the context of higher education, confidence in one's academic abilities is important because it helps students maintain effort, focus, and persistence throughout the learning process. Students with higher academic self-efficacy tend not to perceive assignments, examinations, or difficult materials as insurmountable obstacles, but rather as challenges that can still be overcome through appropriate learning strategies. In digital learning environments, this belief becomes increasingly important because students are required

to manage their time, understand course materials, access learning resources, and complete assignments across various digital platforms. Therefore, academic self-efficacy encourages students to be more willing to try, persist when facing difficulties, and remain engaged in academic activities. These findings are consistent with Yudhistira et al. (2023), who stated that academic self-efficacy significantly influences academic engagement, with the effect mediated by academic burnout. This also supports the view that academic engagement may be associated with students' academic achievement, as more engaged students tend to have greater opportunities to achieve positive learning outcomes (Ketonen et al., 2016).

Emotional intelligence was likewise found to be positively and significantly related to students' academic engagement, supporting H3. Emotional intelligence is understood as the ability to express, integrate, understand, and evaluate emotions in oneself and others (Mayer et al., 2004). In academic contexts, this ability is important because student engagement depends not only on understanding learning materials but also on managing pressure, anxiety, boredom, and social dynamics throughout the learning process. Students with higher emotional intelligence tend to be better able to maintain emotional stability, sustain motivation, and foster more productive interactions with lecturers and peers. Therefore, emotional intelligence helps students remain focused and less likely to withdraw in the face of academic demands. These findings are consistent with Julika and Setiyawati (2019), who explained that the ability to regulate emotions can help students cope more effectively with challenges encountered in academic processes.

The R-square value of 0.718 indicates that digital competence, academic self-efficacy, and emotional intelligence simultaneously explain 71.8% of the variance in students' academic engagement, thereby supporting H4. Substantively, this value indicates that students' academic engagement is not random but is strongly associated with the combination of the three factors examined in this study. Digital competence enables students to overcome technical barriers more effectively by allowing them to access learning materials, manage assignments, and use various learning platforms. Academic self-efficacy provides students with confidence that even challenging tasks or materials

can be managed, encouraging them to persist rather than give up easily. Emotional intelligence helps students manage negative emotions such as anxiety or stress, preventing academic pressure from immediately leading to withdrawal from learning activities. Within the framework of Social Cognitive Theory, these three variables may be understood as complementary individual resources that help students regulate their abilities, self-beliefs, and emotional responses in the face of the demands of digital learning. Thus, academic engagement develops when students possess the ability to use technology effectively, the confidence to meet academic demands, and the capacity to regulate their emotions throughout the learning process.

The remaining 28.2% of the variance in academic engagement that the model did not explain suggests that factors beyond the students themselves also play important roles, such as the quality of teaching, academic workload, social support from peers and family, and institutional policies. Nevertheless, considering the substantial contribution of the three variables examined, the findings of this study may serve as a basis for developing study program-level interventions, such as training in the use of digital platforms, learning strategies to strengthen students' sense of competence, and emotional regulation exercises, as practical efforts to improve students' academic engagement.

This study is not without limitations. One limitation is that the respondents were limited to students in Jakarta, with a sample size of 211 participants. Therefore, future research is recommended to involve respondents from broader geographic areas, a wider range of higher education institutions, and larger sample sizes to provide more comprehensive findings. Theoretically, future studies may expand this model by incorporating external variables such as the quality of digital learning environments, lecturer support, peer support, academic workload, and institutional policies, so that academic engagement can be understood not only from students' internal resources but also from the broader learning context surrounding them. In practice, higher education institutions may consider implementing programs to strengthen digital competence, provide learning-strategy assistance to enhance academic self-efficacy, and offer emotional-regulation training or psychological support to help

students maintain academic engagement in digital learning environments.

5. Conclusion

This study concludes that digital competence, academic self-efficacy, and emotional intelligence have positive and significant relationships with students' academic engagement in the digital era, both in partial and simultaneous ways. Digital competence demonstrated the strongest relationship, indicating that students' ability to utilize learning technologies effectively is an important factor in fostering academic engagement. Simultaneously, these three variables explained 71.8% of the variance in students' academic engagement. The implications of this study highlight the importance of strengthening digital competence through training in the use of learning technologies, developing learning strategies that enhance academic self-efficacy, and providing emotional regulation training to help students optimize their learning experiences in higher education.

Ethical Statement: This study was conducted in accordance with ethical principles for research involving human participants. Participation was voluntary, and all participants provided informed consent prior to completing the questionnaire. Participants were also informed about the study's objectives, the confidentiality of their data, and their right to withdraw at any time without consequences. Furthermore, this study did not collect participants' personal identification data, and all information obtained was used solely for research purposes.

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